with the lowest total costs (437,620.24 RUB per one patient). The costs further increased in the row: etanercept (554,912.15 RUB), adalimumab (977,470.00 RUB), and infliximab (1,039,363.68 RUB). It should be noted that in the infliximab group the bulk of the costs (more than 60% of total) incurred within first six month of therapy. This may potentially increase the financial losses associated with inadequate response to infliximab. The estimated cost-effectiveness ratios (CERs) were 241,779.14 RUB, 334,284.43 RUB, 630,625.81 RUB, and 670,557.21 RUB per unit of DAS28-reduction in the rituximab, etanercept, adalimumab and infliximab groups, respectively. The similar results were observed for the CERs estimated per one patient with EULAR good or moderate response (533,683.22 RUB, 730,147.57 RUB, 1,286,144.74 RUB, and 1,367,583.79, respectively). SA demonstrated that results are robust. **CONCLUSIONS:** The present study has demonstrated that administration of rituximab is economically effective strategy in the treatment of Russian patients with rheumatoid arthritis who failed previous anti-TNF-alfa therapy. Furthermore, treatment with rituximab is associated with considerably lower costs as compared to etanercept, adalimumab and infliximab.

PMS47

COST-EFFECTIVENESS ANALYSIS OF TOCILIZUMAB IN RHEUMATOID ARTHRITIS, IN COLOMBIA

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OBJECTIVES: Assess the cost-effectiveness of first-line tocilizumab biological treatment as monotherapy or in combination with methotrexate, in patients with rheumatoid arthritis (RA) refractory to treatment with non-biological DMARDs. **METHODS:** A markov model was used of the natural history of RA to assess: tocilizumab, tocilizumab+methotrexate, adalimumab, adalimimab+methotrexate, etanercept, etanercept + methotrexate and infliximab+methotrexate. The systematic review of literature don't show results for infliximab in monotherapy. The strategies were evaluated in combination with methotrexate in the first or second line, for a total of 11 strategies evaluated. Outcomes were measured as quality adjusted life years (QALYs). Analysis from the payer perspective, only direct costs were considered, COP 2012. Ratios were calculated cost-effectiveness and incremental cost-effectiveness, and sensitivity analyzes deterministic and probabilistic were conducted. For the RA chronicity, was used time horizon until life expectancy used discount rate of 3% for both costs and health outcomes. **RESULTS:** Tocilizumab was one of the least expensive strategy in first and second-line treatment. For life expectancy horizon monotherapy with tocilizumab followed by infliximab in second line are efficient frontier with an ICER per QALY gained of COP $165,918,610.58. The ICER is sensible to price of medicaments, with a inferiority limit, the results change to COP $106.160.64. The probabilistic analysis indicates that a threshold to willingness to pay of COP $ 150 million higher than monotherapy with tocilizumab, be cost-effective in Colombia. **CONCLUSIONS:** The use of tocilizumab in first and second line like monotherapy and in combination strategy remains lower costs per benefit gained; in that sense, can be considered as an efficient therapy in the Colombian context.

PMS48

A MODEL TO EVALUATE THE IMMUNOGENICITY COSTS OF TUMOUR NECROSIS FACTOR-ALPHA INHIBITORS IN PATIENTS WITH RHEUMATOID ARTHRITIS

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OBJECTIVES: The prognosis of rheumatoid arthritis (RA) has improved dramatically with the development of tumour necrosis factor-alpha (TNFα) inhibitors. However, some patients develop immunogenicity to TNFα inhibitors that can result in treatment failure and higher costs. In addition, immunogenicity to one TNFα inhibitor may create cross-resistance to others. Previous studies have shown the TNFα inhibitor etanercept (ETN) is less immunogenic than adalimumab (ADA) and infliximab (INF). The objective of this study was to determine the costs incurred due to the immunogenicity of ETN, ADA, and INF. **METHODS:** A Markov model was created using data from previously published studies (i.e. the proportions of patients developing antibodies against ADA and INF; the size of increase of dose or drug administration frequency in patients receiving ADA and INF if treatment failed; and the rate of effective dose escalation in patients with and without immunogenicity) and from expert opinion (i.e. physician visit intervals). It was assumed that patients receiving ETN did not develop immunogenicity. Patients initially started ETN, ADA, or INF were allowed to switch treatment to a second or third TNFα inhibitor if treatment failed. Costs due to immunogenicity were calculated from: drug usage after treatment failure, dose or frequency increase after treatment failures, and additional visits due to lack of response. **RESULTS:** Initiating treatment with ETN resulted in the highest proportion of patients still receiving first-line therapy after 5 years, compared with ADA or INF. Assuming 15,000 patients (1% prevalence of RA in The Netherlands) treated for 5 years, the immunogenicity costs incurred with different sequential treatment strategies were: ETN-ADA-INF €4,937,176, ETN-INF-ADA €5,409,593, ADA-ETN-INF €10,140,206, INF-ETN-ADA €11,160,699, ADA-INF-ETN €14,735,996, and INF-ADA-ETN €15,980,783. **CONCLUSIONS:** The 5-year results of our model showed initiating treatment with ETN rather than ADA or INF resulted in higher adherence to first-line therapy and lower immunogenicity costs.

PMS49

COST-EFFECTIVENESS ANALYSIS OF DIAGNOSTIC TESTS IN THE WORK-UP OF PATIENTS WITH INTERMEDIATE RISK OF DEVELOPING RHEUMATOID ARTHRITIS

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OBJECTIVES: Several technologies are currently being developed for better stratifying individuals at risk of developing Rheumatoid Arthritis (RA) to patient-tailored treatment. We assessed the potential cost-effectiveness of four technologies (MRI, il6-serum test, RNA B-cell signature, genetic assay) applied to patients with intermediate risk for RA (3-5 points on ACR/EULAR) using an one-year horizon. **METHODS:** The cost-effectiveness was simulated with a decision model using data from the Rotterdam Early Arthritis Cohort (prevalence of RA: 55%). The comparator was 2010 ACR/EULAR classification criteria. Test properties (sensitivity (se), specificity (sp) and costs) were based on literature and expert opinion. Patients were classified true positive (TP) if they score >=6 points on the criteria or were test positive and used MTX at 12 months. True negative (TN) patients were those who that scored <6 points or were test negative and did not use MTX at 12 months. Utility changes within one year were assigned to TP (+0.1), TN (+0.1), false positive (+0.05), and false negative (-0.05). **RESULTS:** RNA B-cell signature (se: 0.60; sp: 0.90; costs: €150) has the largest net benefit (ΔTP-ΔFP) (45%) and is most cost-effective with an incremental cost effectiveness ratio (ICER) of €13,939. The il-6 serum test (se 0.70; sp: 0.53; costs: €100) has an ICER of €17,343. The MRI and genetic assay have ICERs of €38,541 and €70,347 due to the higher incremental costs of these strategies. To stay below a willingness to pay (WTP) threshold of €20,000/QALY gained (given current utility assumptions), the extra test costs of the new test strategy can maximally be €230. **CONCLUSIONS:** The RNA B-cell signature or il6-serum tests have most potential to be cost-effective in patients with intermediate risk of developing RA.

PMS50

INVESTIGATING THE VALUE OF ABATACEPT IV IN THE TREATMENT OF RHEUMATOID ARTHRITIS: A SYSTEMATIC REVIEW OF COST-EFFECTIVENESS STUDIES

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OBJECTIVES: Rheumatoid arthritis is a progressive inflammatory disease that affects greatly patients' quality of life and demands for aggressive management early on during the course of the disease. The emergence of biologics has equipped rheumatologists with evolutionary treatment tools but it has also influenced the costs of the disease, thus highlighting the necessity of cost-effectiveness data. In this light, the purpose of this study was to conduct a systematic review of cost-effectiveness data for abatacept i.v. in the treatment of moderate to severe rheumatoid arthritis. **METHODS:** Pubmed, the International Society for Pharmacoeconomics and Outcomes Research Outcomes Research Digest, the National Health System Economic Evaluation Database, and the Database of Abstracts of Reviews of Effects were searched for papers published in the last decade (2002-2012). An initial search using the keywords "abatacept, cost effectiveness, and rheumatoid arthritis" was followed by a search of related citations. The quality of independent economic evaluation studies was evaluated in accordance to the Centre for Reviews and Dissemination set of guidelines. **RESULTS:** In total 301 studies were identified and 42 met the inclusion criteria. The majority of rejected studies were due to lack of cost data, failure to include abatacept as a comparator to other biologic agents, and failure to include RA as a treatment indication. Half of the selected studies evaluated abatacept in the treatment of rheumatoid arthritis, after failure of or intolerance to tumor necrosis factor alpha inhibitors. Of those, 82% were in favor of abatacept as a cost-effective or dominant strategy versus varying alternatives, whereas 18% favored other treatments. **CONCLUSIONS:** The majority of evidence from the published literature supports that abatacept IV can be a cost-effective alternative in the treatment of moderate to severe rheumatoid arthritis.

PMS51

PHARMACOECONOMIC ASPECTS OF THE FIRST-LINE BIOLOGIC THERAPIES IN RUSSIAN PATIENTS WITH RHEUMATOID ARTHRITIS

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OBJECTIVES: To assess the cost-effectiveness of tocilizumab and TNF-alfa inhibitors in the treatment of Russian patients with rheumatoid arthritis (RA) and intolerance or inadequate response to disease-modifying antirheumatic drugs (DMARDs) or for whom continuation of DMARDs was deemed inappropriate. **METHODS:** Based on the data from ADACTA-trial and the results of indirect comparison of tocilizumab and anti-TNF-alfa agents (G. Bergman et al., 2010) two pharmacoeconomic models were developed. A six-month time horizon was adopted in the models. Cost-effectiveness of tocilizumab and adalimumab was estimated in the first model. In the second model, cost-effectiveness of tocilizumab was compared to the cost-effectiveness of antirheumatic therapy in the mixed treatment group, which included patients who received infliximab, etanercept and adalimumab in proportion 1:1:1. The cost analysis included costs of medicines and expenses for the day care services. The efficacy of the treatment was defined as a DAS28-reduction, proportion of patients achieved a low or moderate DAS28, EULAR good or moderate response (was considered only in the first model) and ACR20, ACR50, ACR70 responses. Sensitivity analysis (SA) was performed by changing costs of medicines and relative proportions of patients received infliximab, etanercept and adalimumab in the mixed treatment group. **RESULTS:** Despite the higher cost of treatment with tocilizumab (591,112.92 RUB as compared to 488,735.00 RUB for adalimumab), it had the better cost-effectiveness ratios (CERs): 179,125.04 RUB vs 271,519.44 RUB per unit of DAS28-reduction, respectively. The similar results were observed for the CERs estimated per one patient with clinical response. Compared to the mixed treatment group, tocilizumab also had better CERs. SA confirmed the robustness of the model. **CONCLUSIONS:** The study has demonstrated that tocilizumab is an economically effective strategy in the treatment of Russian patients with RA and intolerance or inadequate response to DMARDs or for whom continuation of DMARDs was deemed inappropriate.